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Lecturer POV: Moving Toward Virtual Learning

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Abstract
Purpose: This paper aims to examine the factors affecting UNITEN lecturers' readiness to deliver subject courses using virtual learning experiences.
Design/methodology/approach: This study uses primary data and the information has been obtained through the distribution of online questionnaire to the target respondents; lecturers in College of Business Management and Accounting (COBA), Universiti Tenaga Nasional (UNITEN).
Findings: There are positive significant effects between both independent variables; course communication development and course design development toward virtual learning experiences.
Research limitations/implications: This study has a difficulty to obtain respondents as well as there is a limitation in distribution time frame. This study will be expanded to full research in the future by testing the accurate sample from the population. The new study should include different variables such as time management, technical support, technology, and others.
Practical implications: This study is anticipated to contribute to the teaching and learning environment in UNITEN. In addition, the management will be able to provide virtual learning training simulation to the lecturers to ensure better acceptance in virtual learning. By providing better equipment and technical supports, lecturers should be able to focus better on their classes and provide better services to the universities.
Originality/value: This study will contribute to the current literature of virtual learning experiences in Malaysia after the strike of Covid-19.

Keywords: Virtual Learning, Course Communication, Course Design, Lecturer

Introduction

Most lecturers and students prefer face-to-face teaching and learning, and only use technology as a way to support teaching and learning experiences. The implementation of the movement control order on March 18 to stem the transmission of Covid-19 saw both lecturers and students scrambling to embrace online teaching and learning (The Star, 2020). Virtual learning is a learning experience that is enhanced through utilizing computers and/or the internet both outside and inside the facilities of the educational organization (Racheva, 2017). It helps the education to be transferred without a time limit or geographical barrier (Shanmugam, Zainal, & Gnanasekaren, 2019). With virtual learning, universities are able to continue providing services throughout movement control order period.

However, virtual learning requires additional skills and efforts from the lecturers in term of preparation of materials for the students (Protsiv & Atkins, 2016). Lecturers are already struggling to balance teaching, research, and service obligations, as well as work-life balance

(Houston, Meyer, & Paewai, 2006; Houlden & Veletsianos, 2020; Rapanta, Botturi, Goodyear, Guàrdia, & Koole, 2020). Some of the lecturers who only used basic learning management system (e.g., moodle) had to prepare and deliver online classes from home with limited technical support (Hodges et al., 2020; Rapanta et al., 2020). Hence, the objective of this paper is to examine the factors that affect UNITEN lecturers' readiness to deliver subject courses using virtual learning experiences.

Literature Review

Virtual Learning Experiences

Malaysia has provided various initiatives to encourage e-learning platform since 1972, as Ministry of Education (MOE) even establish Educational Technology Division to ensure the success of e-learning (Shanmugam, Zainal, & Gnanasekaren, 2019). With Sustainable Development Framework for Malaysia under National Transformation Plan 2050, Malaysia is setting other targets with Mega Science of well- being for learning (Malaysia 2050 Smart Communities, n.d.). This shows how important the education is in Malaysia. According to Malaysian Educational Technology Association chairman, Associate Prof. Dr. Mahizer Hamzah, prior to the movement control order, the public acceptance of virtual learning would take much longer to accomplish, however Covid-19 pandemic has unwittingly accelerated public acceptance of distance education (Bernama, 2020).

Thus, virtual learning has rapidly becomes part of the educational system. It is an important part of teaching and learning process (Pituch & Lee, 2006; Raaij & Schepers, 2008). By using virtual learning, providing teaching and learning services to all students across the states even outside from Malaysia is limitless. According to previous studies, virtual learning has been defined as a web-based communications platform that allows both students and lecturers, to access different learning tools, such as course outline, document sharing systems, learning resources, student-lecturer assistance, and discussion without limitation of time and place (Martins & Kellermanns, 2004; Ngai et al., 2015; Raaij & Schepers, 2008).

Course Communication Development

Communication is also one of the important parts of virtual learning. It influences the process of teaching and learning (Barnard, Paton, & Rose, 2007). The medium of communication in virtual learning needs to be the combination of both, writing and speaking. According to Murray (2001), virtual learning communication is far more time consuming than face-to-face classes. Previous study also stated that communication barrier is one of the main reasons why the students drop out from their online program (Vanhorn, Pearson, & Child, 2008).

Lecturer needs to communicate on rules and regulations, assignment due date, course expectation, and other necessary information regarding subject matters (Coppola, Hiltz, & Rotter, 2002; Darabi et al., 2006; Ko & Rossen, 2001; Varvel, 2007; Martin et al., 2019). Discussions through forums, emails, and chats are able to reduce information gap between lecturers and students (Moore, 1993; Redmond, 2011). Feedback needs to be adequate, timely, and prompt to ease the learning process for virtual learning (Martin et al., 2019).

Course Design Development

Course Design is a process to create better quality learning environments and experiences for the students (what is course design, n.d.). According to Varvel (2007), course design process involved aligning the course objectives with instructional strategies, activities, and assessments. The main focus of course design is to identify the appropriate assessments, activities, and workload to ensure optimal learning experience for students (Napier, Dekhane, & Smith, 2011; Martin, Budhrani, & Wang, 2019).

The main challenge in the implementation of virtual learning is to ensure that the students accept the system itself (Martins & Kellermanns, 2004; Raaij & Schepers, 2008). Lecturers must prepare various ways to maintain the students' attention, interest, and motivation in virtual classes. For examples, by providing teaching slides, audio, record video, web-conferencing tool, and simulations; this could ensure student's understanding and interpretation on the subject matters (Varvel, 2007; Martin, Budhrani, & Wang, 2019). However, those activities need to be aligned with the course program and subject outcome (Varvel, 2007).

Theoretical Framework and Hypothesis Development

Course Communication Development and Virtual Learning Experiences

Communications are essential for better quality virtual learning experiences (Murray, 2001). Varvel (2007) found that lecturers need to be creative with effective communication methods in order to formulate better responses from the students. However, some of the lecturers are facing difficulties to transfer the knowledge as they are facing barrier with non-verbal feedback by the students (Vanhorn, Pearson, & Child, 2008). Previous studies also found that lecturers need to be proactive in communicating to the students, as some of the students are disengage and not communicating online (Vanhorn, Pearson, & Child, 2008). Lecturers also have to use social media such as Telegram and Whatsapp because students prefer announcement and discussion via texting instead of web-conferencing (Martin, Budhrani, & Wang, 2019). Thus, this hypothesis has been proposed:

Hypothesis 1 (H_1): There is a significant relationship between course communication development and virtual learning experiences.

Course Design Development and Virtual Learning Experiences

Previous researchers found that course design should provide activities that give the students opportunities to interact as this would facilitate the learning process (Ally, 2004; Beldarrain, 2006). However, Vanhorn, Pearson, and Child (2008) found that lecturers are facing difficulties to transfer the same content in face-to-face class using virtual learning. Martin, Budhrani, and Wang (2019) found that some lecturers want to make their classes as interesting as possible but as they are new to this teaching environment which causes them to use more time to ensure their virtual class is functional. Thus, this hypothesis has been proposed:

Hypothesis 2 (H_2): There is a significant relationship between course design development and virtual learning experiences.

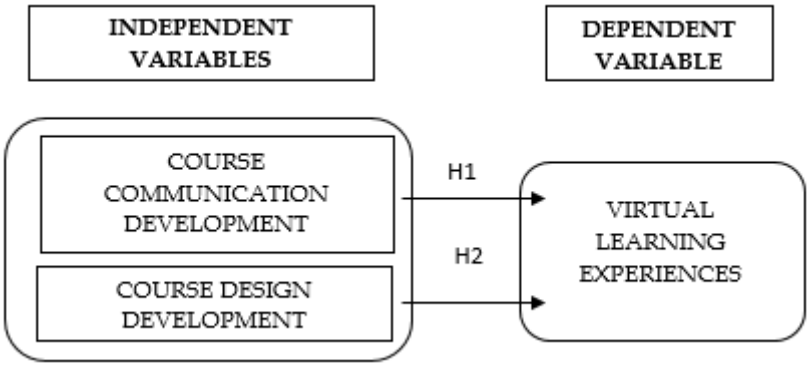

Figure 1: Theoretical Framework

Method

The sample of this study is 30 because this is a pilot test research paper. This study used lecturers in College of Business Management and Accounting (COBA), Universiti Tenaga Nasional (UNITEN) as sample. In estimating the sample size for pilot test, it is a general flat rule to use at least 30 subjects or greater to estimate a parameter (Browne, 1995). This study used primary data and information has been obtained through the distribution of online questionnaire to the target respondents. The questionnaire consists of 4 sections, which are Section A, Section B, Section C, and Section D. The independent variables are in Section A and B, while the dependent variable in this study is included in Section C. The demographic profile of respondents is in Section D. For the measurement of both independent and dependent variables, the questionnaires were adapted from Martin, Budhrani, and Wang (2019). This study has two independent variables, which are course design development and course communication development. The dependent variable is virtual learning experiences. All variables were measured based on 5-point Likert scale. It was used to measure the level of agreement or disagreement towards the statement given with five different scale rates that ranges from (1) = Strongly Disagree to (5) = Strongly Agree.

Findings

Figure 2 shows the conceptual model which underpinning this study. The researchers had tested the proposed conceptual model using PLS SEM 3.0 and SPSS Version 21. SPSS Version 21 has been used for demographic descriptive analysis. The PLS SEM comprises of two sub-models (Hair, Risher, Sarstedt, & Ringle, 2019). The measurement and the structural models were discussed in details below.

The analysed data were collected from a web-based questionnaire. A total of hundred questionnaires were email to the selected respondents, however only thirty questionnaires were answered. From 30 respondents, majority of the respondents are female (27 respondents). In term of age, the highest numbers of respondents are for age ranging between 31 to 35 years (12 respondents). Majority of the respondents are lecturers and their delivery method of study, are synchronous method. Most of the respondents are teaching undergraduate subjects (17 respondents). Lastly, for working experience, the highest numbers of respondents which are 12 respondents are ranging between 6 to 10 years.

Construct reliability as well as validity were used to examine the measurement model. For reliability, indicator reliability was tested by assessing the factor loading of the items. According to Hair, Matthews, Matthews, and Sarstedt (2017), loading value greater than 0.5 is acceptable. As shown in table 1, items CCD2, CCD3, CCD4, RVL6, and RVL7 are eliminated due to the low loadings. Next, composite reliability (CR) was applied to test the consistency of

the constructs. According to Hair, Ringle, and Sarstedt (2011), CR values should be greater than 0.7. As in Table 1 below, all CR values are greater than threshold of 0.7, thus indicating an acceptable range of reliability. In terms of validity, it is assessed by convergent and discriminant validity. Firstly, for convergent validity, average variance extracted (AVE) has been used in this study as AVE represents the degree to which a measure is correlated positively with the same constructs of other measures.

Table 1: Reliability and Validity Result

	Construct	Loading (>0.5)	CR (> 0.7)	AVE
Course Communication Development (CCD)	CCD1	0.797	0.895	0.495
	CCD10	0.644		
	CCD11	0.64		
	CCD12	0.514		
	CCD2	Delete		
	CCD3	Delete		
	CCD4	Delete		
	CCD5	0.672		
	CCD6	0.832		
	CCD7	0.816		
	CCD8	0.807		
	CCD9	0.517		
Course Design Development (CDD)	CDD1	0.836	0.922	0.601
	CDD2	0.774		
	CDD3	0.606		
	CDD4	0.698		
	CDD5	0.775		
	CDD6	0.834		
	CDD7	0.881		
	CDD8	0.760		
	CDD9	0.834		
Readiness of Virtual Learning (RVL)	RVL1	0.917	0.873	0.591
	RVL2	0.899		
	RVL3	0.533		
	RVL4	0.847		
	RVL5	0.552		
	RVL6	Delete		
	RVL7	Delete		

Note: CR=Composite reliability, AVE=Average variance extracted, CCD=Course communication development, CDD=course design development, RVL= readiness of virtual learning

Next, in order to analyse the discriminant validity, heterotrait-monotrait ratio (HTMT) as suggested by Henseler, Ringle, and Sarstedt (2015), HTMT has been used in this study. This recent approach shows the estimation of the true correlation between two latent variables. A threshold value of 0.90 has been suggested for HTMT (Henseler et al., 2015). Meanwhile, the value of HTMT above 0.90 shows a lack of discriminant validity. Table 2 shows that HTMT criterion has been fulfilled as all variables as the value are below than 0.90.

Table 2: HTMT result

	Course Communication Development	Course Design Development	Readiness of Virtual Learning
Course Communication Development			
Course Design Development	0.69		
Readiness of Virtual Learning	0.737	0.815	

The structural model can be tested by computing beta (β), R^2, and the t-values via a bootstrapping procedure with a resample of 5,000 (Hair et al., 2017). Figure 2 and Table 3 depict the structural model assessment, showing the results of the hypothesis tests. Course communication development and course design development explain 85% of the variance in the readiness of virtual learning. The value of R^2 has an acceptable level of explanatory power, indicating a substantial model, as suggests by Chin (1998), values of 0.67, 0.33, and 0.19 as measure of R^2 to be considered substantial, moderate, and weak respectively.

Figure 2: Path Coefficient

Table 3 also present the hypothesised relationship, where the first hypothesis, H_1 assumed that the course communication development has a significant influence on readiness of virtual learning. Table 3 indicates that a positive significant effect can be traced between the variable (PC = 0.436, T-value = 4.027**). Therefore, H_1 can be accepted. Other than that, the second hypothesis, H_2 proposed that course design development significantly influences the readiness of virtual learning. As shown in Table 3 below, H_2 is accepted with PC = 0.574 and t-value = 4.818**.

Table 3: Hypotheses Testing

	Hypotheses	Path Coefficient (PC)	Standard Deviation (SD)	T-value	Decisions	R^2
H1	Course Communication Development -> Readiness of Virtual Learning	0.436	0.108	4.027**	Accepted	0.858
H2	Course Design Development -> Readiness of Virtual Learning	0.574	0.119	4.818**	Accepted	

Discussion and Conclusion

This paper aims to examine UNITEN lecturers' readiness to deliver subject courses using virtual learning experiences. The first factor contributing to readiness is course communication development. This study found a positive significant effect between communication development and virtual learning experiences with the result of PC = 0.436, T-value = 4.027**. This result shows that the lecturers are providing appropriate communication mediums during their virtual learning subject courses. The findings are similar with Eskey and Schulte (2010); Sheridan, and Kelly (2010), and Martin, Budhrani, and Wang (2019) where they found lecturer timely communication facilitates the online learning process. This result also supported by Kelly (2014); Ko and Rossen (2017), and Cuthrell and Lyon (2007) where they found a significant relationship between communication and learning outcome, where students who received better communication are able to focus more on their study as they did not feel alone in the learning process.

The second factor contributing to readiness is course design development. This study also found a positive significant effect between course design development and virtual learning experiences with the result of PC = 0.574 and t-value = 4.818**. This result shows that the lecturers are creating the most suitable course design for their virtual learning subject courses. The findings are similar with Ally (2004); Beldarrain (2006), and Martin, Budhrani, and Wang (2019) where they found that designing learning activities and creating online course orientation are able to facilitate online teaching and learning process. Ali and Leeds (2009) also stated that course design is important in order to capture the student's attention because online learning setting reduces the student's focus in learning.

In conclusion, both course communication development and course design are influencing the lecturer's readiness to teach virtual classes. The enforcement of movement control order due to Covid-19 had forced the lecturers to embrace virtual learning in haste. However, virtual learning indeed is able to ensure the continuity of education process in the middle of pandemic. Thus, this study is expected to expand the endless possibilities for better teaching and learning process in the new educational era.

Although this study has reached its objectives, there are limitations as well. This study has a difficulty to obtain respondents as well as there is a limitation in distribution time frame. However, the limitation mentioned above will not invalidate the findings of the study.

Besides that, this study would like to recommend for virtual learning training simulation to the lecturers in order for the lecturers to adapt easily in this new teaching environments. By providing better equipment and technical supports, lecturers would be able to focus better on their classes. This study will be expanded to full research in the future by testing the accurate sample from the population. Lastly, future research should also include different variables such as time management, technical support, technology, and other variables in the study.

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